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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/499,060	02/04/2000	Christophe Garnier	98GR22045417	9699

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EXAMINER

CUNNINGHAM, TERRY D

ART UNIT PAPER NUMBER

2816

DATE MAILED: 07/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/499,060

Applicant(s)

GARNIER ET AL.

Examiner

Terry D. Cunningham

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-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 May 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-37 and 40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-37 and 40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 04 February 2000 is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Reopen Prosecution

This paper is in response to the Appeal Brief filed 16 June 2003. Prosecution on the merits is hereby re-opened responsive to Applicants remarks in the Appeal Brief. Examiner has reconsidered Applicant's remarks concerning the claim language that the "capacitance charging current" is "proportional to a square of a ration of the second resistance and the first resistance". While a bipolar circuit may have similar operation, it is seen through research that the operational equation has an exponential element, rather than a square element as seen for a MOSFET. Thus, the rejection has been modified as provided below.

Specification

The specification is objected to because it is clear, in context, that the equation " $V_{GST5} - V_{th} \neq R_e \times I_{g2}$ " in line 8 of page 6 should be changed to $--V_{GST5} - V_{th} \approx R_e \times I_{g2}--$. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 9-37 and 40 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The specification fails to adequately disclose how to make and use the invention as now claimed with respect to the new language concerning “said first and second resistances having a same type technology”. Applicant has pointed to support for this language having antecedent in the specification, however, the specification fails to disclose specifically what is meant by this disclosure. Stating that the elements have the “same type technology” can mean many different means. This can mean that both are electronic, that both are mechanical, that both are integrated, etc. In the remarks, Applicant appears to be stating that this means that both resistances are of integrated technology. However, with no specific disclosure provided in the specification as to what is meant by this broad and vague terminology, it is not seen that the specification enables how to make and use the invention as now claimed.

Examiner has fully considered Applicant’s remarks for the above rejection and has not found them to be persuasive. While the specification provides some examples for technology (e.g., bipolar or MOSFET, which Examiner agrees are some possible interpretations for such), nowhere is the specification seen to expressly define the phrase “same type technology”.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 9-37 and 40 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

For similar reasons as discussed above, the metes and bounds of the phrase “same type technology” cannot be clearly understood based on the broad and vague disclosure therefor in the specification.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9-37 and 40 are also rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's prior art Fig. 1 in view of Tanigawa (USPN 4,814,724) and to Lauffenburger (USPN 5,254,957).

Applicant's prior art Fig. 1 discloses a ramp generator having a broad current source Ig1 with no expressed teachings of the structure thereof. The reference to Tanigawa discloses in Fig. 4 a specific current sink comprising a "current mirror" which has the advantage of gain control. It is notoriously well known that to modify a current sink circuit, as seen in Fig. 4 of Tanigawa, to a current source circuit, such requires changing the conductivity types of the transistors and the polarities of the power supply. Therefore, it would have been obvious for one skilled in the art to modify the circuit of Fig. 4 of Tanigawa to be a current source circuit as is notoriously well known in the art. Further, it would have been obvious for one skilled in the art to use the specific current source of Tanigawa, modified as discussed above, for the broad current source Ig1 of Applicant's prior art Fig. 1 for the expected advantage of obtaining a constant current with gain control.

Additionally, in the reference to Tanigawa there is no specific discussion of MOS transistors. However, it is notoriously well known that bipolar transistors and MOS transistors

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are art-recognized equivalents. Additionally, it is notoriously well known that MOS transistors have reduced leakage current. Therefore, it would have been obvious for one skilled in the art to use MOS transistors in place of the bipolar transistors of Caron due to the doctrine of equivalents and to obtain reduced leakage current.

With the inclusion of MOS transistors in the rejection to all the claims, it is now necessarily true that the operational equation has a square element in it, as provided in line 11 of page 6 of the specification. Examiner further contends that since a diode-connected MOS transistor necessarily has a gate-to-source voltage effectively equal to the threshold voltage thereof, the $V_{GST}-V_{th}$ (discussed for transistor T4 on pages 5 and 6 of the specification) must be negligible. Thus, regardless of the value of the “resistance R_e ”, it is necessarily true that $R_e \times I_{g2} \gg V_{GT}-V_{th}$ (see line 6 of page 6 of specification) for elements 9 and Q2 of Tanigawa. This, being the case, the above modification will have the claimed operation of the “capacitance charging current” being “proportional to a square of a ratio of the second resistance and the first resistance”

Regarding Applicant’s remarks concerning the claim language “same type technology”, since there is no express definition provided for this phrase, as discussed above, broadest reasonable interpretation is appropriate.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Terry Cunningham whose telephone number is 703-308-4872. The examiner can normally be reached on Monday-Thursday from 7:30 to 6:00.


If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Timothy P. Callahan can be reached on 703-308-4876. The fax phone numbers for

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Technology Center 2800 are 703-872-9318 for Before Final communications and 703-872-9319 for After Final communications. Please note, any faxed paper clearly stating **DRAFT** or **PROPOSED AMENDMENT** at the top will be forwarded directly to the Examiner. All others will be treated as a formal response and acted upon accordingly.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is 703-308-0956.

TC
July 16, 2003


Terry D. Cunningham
Primary Examiner
Art Unit 2816